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EXAMINER	
LONSBERRY, HUNTER B	

ART UNIT	PAPER NUMBER
2623	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 09/735,983	Applicant(s) HABERMAN ET AL.	
	Examiner Hunter B. Lonsberry	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-9 and 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 10/12/07 have been fully considered but they are not persuasive.

Applicant argues that Hurst does not describe or suggest synchronized starting/ending points and instead relies upon buffers that store the input streams and bitstream blocks that scan for in/outpoints in the to/from streams (page 6).

The examiner respectfully notes that the claims do not explicitly recite and identification of a starting/end point, and therefore Hurst's in/out point positioning and utilization of a buffer for synchronization meets the corresponding limitations in the claims.

Applicant argues that flushing streams as done by Hurst and previously asserted by the Examiner corresponds to increasing the data rate of the data streams at a time before and endpoint of a segment. Given later citations by the examiner, Hurst does not disclose changing the data rate of the data streams as recited in claim 1 (page 6-7).

The Examiner respectfully notes that it is the combination of Hurst with Zhang which is relied upon to teach these features.

Applicant argues that Zhang's teachings of a mismatch which results in the entire second stream is recoded so that the resulting bitrate of the entire stream is changed to

fit gaps. Nothing in Zhang teaches or suggests increasing the data rate of a stream before an endpoint of each segment to provide gaps (page 7).

The Examiner respectfully disagrees. Zhang discloses a number of different approaches in the section cited by the applicant (col 12 lines 6-30), which also includes adding null packets, additional/auxiliary data etc for the advantages of ensuring that the decoder buffer does not over/underflow. The examiner also notes that Hurst, not Zhang is relied upon to teach the gap features

Further the examiner notes that changing the data rate for an entire input stream, including from the beginning, meets the claim limitation as there is no specific temporal period required by the claim, instead it merely requires "at a time before the end point".

Thus it is the combination of Hurst and Zhang which is relied upon to teach these features.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 6-9, and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst Jr. (US 6038000) in view of Zhang et al. (US 6611624).

Claim 1, Hurst discloses a method of preparing a plurality of data streams to allow

seamless switching between said data streams by a switching device,, wherein said switching device includes data stream buffering for an output data stream, said method comprising the steps of (Col. 2, lines 63-Col. 3, lines 65+):

Preparing the plurality of data streams Prior to transmitting the plurality of data streams switching device (see Fig. 1 and Fig. 3 in which \$6 and \$7 streams are prepared ahead of time in corresponding work buffer 330A and 330B prior to the switch 350), wherein the preparing comprises:

providing a plurality of data streams (Source 1 and 2 of Fig. 1), said data streams including data which is divided into segments, wherein said segments include synchronized starting points and end points on all of said plurality of data streams (Col. 3, lines 14-Col.4, lines 3 and Col. 5, lines 30-56);

increasing a data rate (320A is flushed) of said plurality of data streams at a time before an end point of a segment (Fig. 2, Col. 11, lines 3-11); and

providing gaps in said plurality of data streams between said end points (out point) and said starting points (in-point) (Fig. 5A-C; Col. 18, lines 48-60).

After preparing the plurality of data streams, transmitting the multiplexed data stream to the switching device (see Fig. 1 and Fig. 3 in which \$6 and \$7 streams are prepared ahead of time in corresponding work buffer 330A and 330B prior to the switch 350; see Col. 4, lines 65-67).

Hurst does not clearly disclose, "multiplexing said plurality of data streams to said switching device" and increasing a data rate, from a first data rate to a second data rate of the plurality of data streams by changing the multiplexing for said plurality of data

streams wherein such changing of multiplexing does not affect the contents of the plurality of data streams.

Zhang discloses pluralities of data streams are multiplexed to said switching device and increasing a data rate of the plurality of data streams by changing the multiplexing for said plurality of data streams wherein such changing of multiplexing does not affect the contents of the plurality of data streams (Col. 11, lines 43-Co1. 12, lines 30. Note: the "content" of the encoded video program does not change because the "content" of the encoded video program should be recovered to its initial state after the decoding process).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst with Zhang so that the overall bit rate of the multiplex fits within the available bandwidth.

Claim 2, Hurst further discloses including the step of inserting trigger gap indicators in said plurality of data streams proximate said end points is further met by Hurst because Hurst must insert trigger gap indicators (black-screen or time-related decision or event) so the system could detect and a splice a decision could be made at the end of the from stream (Col. 6, lines 9-36).

Claim 3, Hurst does not clearly disclose "wherein the step of increasing a data rate includes increasing a bandwidth of said plurality of data streams."

Zhang discloses wherein the step of increasing a data rate includes increasing a bandwidth of said plurality of data streams (Col. 12, lines 10-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst with Zhang so the decoder buffer does not overflow or underflow, regardless whether it is at splicing point or before/after the splicing.

Claim 6, Hurst does not clearly disclose, "wherein the step of increasing a data rate includes compressing said data of said plurality of data streams."

Zhang discloses wherein the step of increasing a data rate includes compressing said data of said plurality of data streams by recoding (bit reduction) on all video programs (Col. 11, lines 44-Col. 12, lines 30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst with Zhang so to shape the bit stream rate of the streams to fit within the available bandwidth.

Claim 7, Hurst further discloses wherein said plurality of data streams include multimedia data streams (video see Col. 16, lines 25-65+, audio see Col. 17, lines 53-65+ and auxiliary data see Col. 19, lines 35-65+).

Claim 8, Hurst further discloses wherein said plurality of data streams include MPEG-2 encoded data streams (Col. 2, lines 53-65+).

Claim 9, Hurst further discloses wherein said plurality of data streams are multiplexed in an MPEG-2 transport stream (Col. 21, lines 15-24).

Claim 11, Hurst does not clearly disclose, 'wherein said plurality of data streams include AC3 encoded data streams.'

Official notice is taken that the use of AC3 encoder for encoding audio data is well known in the art, i.e., Dolby surround sound. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst/Zhang to use an AC3 encoder so to take the advantage of the most widely adopted high-end audio signal compression technique of AC-3 multi-channel high-fidelity audio signal compression invented by Dolby Inc.

Claim 12 Hurst further discloses the step of switching from one of said plurality of data streams to another one of said plurality of data streams at an end point of a segment by said switching device (Fig. 3).

Claim 13, Hurst discloses A system for preparing a plurality of data streams for transmission to allow a receiver receiving said transmitted data streams to seamlessly switch between said transmitted data streams (Fig. 1; Col. 2, lines 43- 65+); said system comprising:

a content preparation component (Fig. 1 not shown but inherent), coupled to a source of said plurality of data streams (Compressed Bit stream Source 1 and 2), to prepare and encode content in said plurality of data streams with Synchronized starting points and end points common to all of said plurality of data streams prior to transmitting the plurality of data streams to the receiver (Col. 3, lines 14-Col.4, lines 3 and Col. 5, lines 30-56);

a gap creation component (Fig. 1, not shown but inherent in order to perform as disclosed), coupled to said content preparation component, said gap creation component to insert gaps in said plurality of data streams between said end points (Out-Point) and said starting points (In-Point) (Fig. 5A-C; Col. 18, lines 48-60).

a data rate control component (Fig.1, not shown but inherent), coupled to said gap creation component, to dynamically control data rates of said plurality of data streams (Fig. 2, Col. 11, lines 3-11);.

Hurst does not clearly disclose the plurality of data streams for transmission is prepared by a multiplexed transport stream and "to dynamically control data rates of the plurality of data streams wherein such changing of multiplexing does not affect the

contents of the plurality of data streams; and wherein the data rate control component increases the data rate of the multiplexed data streams at a time before an end point of a segment and instructs the gap creating component to insert gaps in the plurality of data streams between the end points and the starting points."

Zhang discloses pluralities of data streams are multiplexed into multiplexed transport stream to said witching device and increasing a data rate of the plurality of data streams by changing the multiplexing for said plurality of data streams wherein such changing of multiplexing does not affect the contents of the plurality of data streams and wherein the data rate control component increases the data rate of the multiplexed data streams at a time before an end point-of a segment and instructs the gap creating component to insert gaps in the plurality of data streams between the end points and the starting points (Col. 11, lines 43-Co1.12, lines 30. Note: the "content" of the encoded video program does not change because the "content" of the encoded video program should be recovered to its initial state after the decoding process). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hurst with Zhang so that the overall bit rate of the multiplex fits within the available bandwidth.

Claim 14, "trigger insertion component (not shown but inherent), coupled to said data rate control component, said trigger insertion component to insert trigger messages into said plurality of data streams" is further met by Hurst because Hurst

must insert trigger gap indicators (black-screen or time-related decision or event) so the system could detect the event in which a Splicing decision could be made at the end (out-point) of the from stream (Col. 6, lines 9-36).

Claim 15, Hurst further discloses wherein said plurality of data streams are transmitted using an MPEG-2 compliant transport stream, and said data rate control component controls data rates of said data streams in said transport stream (Col. 2, lines 50-62; Col. 3, lines 23-65; Col. 12, lines 44-56; Col. 13, lines 4-25; Col. 14, lines 63-Col. 15, lines 21 and Col. 16, lines 25-65+).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hunter B. Lonsberry whose telephone number is 571-272-7298. The examiner can normally be reached on Monday-Friday during normal business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Hunter B. Lonsberry
Primary Examiner
Art Unit 2623

HBL